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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,170	07/22/2003	Richard H. Henze	10003479-6	8242

7590 09/19/2005

HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

TUGBANG, ANTHONY D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

TJH

**Office Action Summary**

Application No.

10/625,170

Applicant(s)

HENZE ET AL.

Examiner

A. Dexter Tugbang

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 9-11 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 6 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/22/05</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. The applicant(s) response filed on 6/22/05 has been fully considered and made of record.
2. In the response filed on 6/22/05, the numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered Claims 12-15 have been renumbered as Claims 21-24, respectively. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 102***

4. Claims 1-3, 7, 10, 11 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Dirne et al 5,896,253.

Dirne discloses a method of forming a head assembly comprising: providing a base member (wafer substrate 1); forming head components (E1 - E11) upon the base member individually adapted to communicate information relative to media; providing component regions (insulation layer 21) between respective ones of the head components and a path of travel of the media (tape 7); providing a support region (flux guide 19a) intermediate adjacent ones of the head components and positioned to support the media moving along the path of travel, the support region comprising a material of soft magnetic material (see col. 4, lines 8-11),

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which is different than an oxide or polymer material (see col. 4, lines 23-26) of the component regions 21, which meets all of the limitations of the claimed invention.

It is noted that the claimed “component regions” are read as the regions of insulating layer 21 that exists directly “between” the head components (E11 in Fig. 2) and the path of the travel of the media 7.

Regarding Claim(s) 2 and 3, since the material of the support regions is metal, i.e. NiFe, and the material of the component regions is a non-metal, i.e. a polymer, then the support regions would have both a hardness, and resistance to wear, greater than the material of the component regions.

Regarding Claim(s) 7, Dirne further teaches providing the support region upon a cover member 31 and placing the cover member (wear resistant layer 31) adjacent the base member.

Regarding Claim(s) 11, Dirne further teaches that the head components are individually configured to communicate digital information relative to the media comprising a magnetic tape 7.

### ***Claim Rejections - 35 USC § 103***

5. Claims 4 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dirne et al.

Dirne discloses the claimed manufacturing method as relied upon above, including that the head components are MR read elements. However, Dirne does not mention that the head components also include write elements.

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The examiner takes Official Notice that to form head components that individually comprise both a read element and a write element is conventional, old, and notoriously well known in the art of manufacturing magnetic heads. As evidence of obviousness, the examiner cites one example of this well known feature with the reference to Mallery (U.S. Patent 5,103,553) to show that an individual head component can be formed with both a read element (MR element 40) and a write element (anyone of the write coil 42 or write poles 12, 14 (shown in Fig. 3)).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Dirne by including a conventional and well known write element with the read element on each individual head component, as taught by Mallery, to form a combination read/write head that allows information to be written and read from the media or tape during magnetic recording.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dirne et al in view of the Applicant(s) Admitted Prior Art, referred to hereinafter as the AAPA.

Dirne teaches the claimed manufacturing method as previously discussed. Dirne does not mention forming the head components using Linear Tape Open technology. The AAPA (specification, page 1) teaches that forming head components by Linear Tape Open technology provides a format of enhanced high capacity storage.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Dirne by forming the head components with Linear Tape Open technology, as taught by the AAPA, to advantageously provide a format of enhanced high capacity storage.

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7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dirne et al in view of Japanese Patent 5-143956, referred to hereinafter as JP'956.

Dirne teaches the claimed manufacturing method further including that the support region 19a is formed over the base member and that the support region is made of a soft magnetic material.

Dirne does not teach that the support region is formed by "depositing".

JP'956 teaches that support regions formed of an equivalent material of soft magnetic material can be formed by depositing or coating for the purpose of having a high magnetic shielding effect and high resolution (see Constitution).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Dirne by forming the support regions through depositing, as taught by JP'956, to advantageously provide a high magnetic shielding effect and a high resolution.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dirne et al in view of Aboaf et al 5,296,993.

Dirne discloses the claimed manufacturing method as previously discussed. Dirne does not teach that the component regions are positioned to contact the media moving along the path of travel.

Aboaf suggest that head components that include component regions can have the component regions positioned to contact, or positioned in a transducing contacting relationship, with the media or tape along the moving path (see col. 5, lines 20-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Dirne by positioning the component regions to contact the media moving along the path of travel, as taught by Aboaf, to providing an art recognized equivalent operational relationship where the head components both read and write information to the media.

***Response to Arguments***

9. Applicant's arguments with respect to Claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

10. Claims 6 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claim 24 is allowed.

12. The following is a statement of reasons for the indication of allowable subject matter.

With respect to Claim 6, as Claim 6 includes all of the limitations of Claim 1, the prior art does teach providing an insulating layer (see layers 9 or 23 of Dirne et al). However, the prior art does not teach removing portions of the insulating layer to form the support regions. It is noted that Claim 24 also requires this very same feature.

With respect to Claim 8, the prior art does not teach that the support region formed upon the cover member includes removing portions of the cover member.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

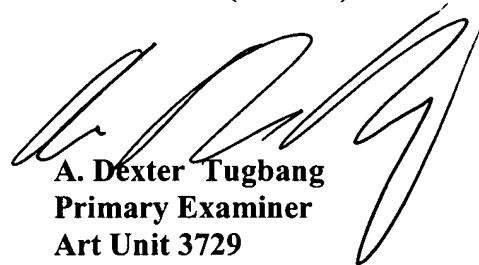
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 571-272-4570. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**A. Dexter Tugbang**  
**Primary Examiner**  
**Art Unit 3729**

September 15, 2005